

CLAIMS

1. A liquid absorbing sheet comprising a liquid
absorbing resin layer, wherein the liquid absorbing
5 resin layer is obtained by irradiating UV-rays onto a
monomer composition to polymerize the monomer
composition, the monomer composition containing:

a monofunctional monomer component (A) containing
a monofunctional monomer (a) capable of forming a
10 homopolymer that is soluble in a nonaqueous solvent
used in a nonaqueous electrolyte secondary battery;
and

a polyfunctional monomer component (B).

15 2. The liquid absorbing sheet according to claim
1, wherein the difference between a solubility
parameter value of the monofunctional monomer (a) and
a solubility parameter value of the nonaqueous solvent
is in the range of -1.0 to 8.0.

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3. The liquid absorbing sheet according to claim
2, wherein the nonaqueous solvent has a solubility
parameter value of 17 to 28.

25 4. The liquid absorbing sheet according to claim
1, wherein the nonaqueous solvent contains at least

one of dimethyl carbonate, propylene carbonate, and ethylene carbonate, and the homopolymer is obtained by adding 0.1 to 5 parts by weight of a UV-polymerization initiator per 100 parts by weight of the
5 monofunctional monomer (a) and irradiating UV-rays onto the mixture.

5. The liquid absorbing sheet according to claim 4, wherein the homopolymer dissolves in the nonaqueous
10 solvent when 1 part by weight of the homopolymer is immersed in 30 parts by weight of the mixed solvent at room temperature for 24 hours.

6. The liquid absorbing sheet according to any
15 one of claims 1 to 5, wherein the monofunctional monomer (a) is benzyl acrylate, N-vinyl-2-pyrrolidone, imide acrylate, acryloyl morpholine, phenoxyethyl acrylate, N,N-diethylacrylamide, methoxypolyethylene glycol acrylate, tetrahydrofurfuryl acrylate, or
20 phoxypolyethylene glycol acrylate.

7. The liquid absorbing sheet according to claim 1, wherein the liquid absorbing resin layer has a crosslink density of 0.0001 to 0.17.

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8. The liquid absorbing sheet according to any

one of claims 1 to 7, wherein the liquid absorbing resin layer is formed on a substrate.

9. The liquid absorbing sheet according to claim
5 8, wherein the substrate is capable of absorbing and retaining the nonaqueous electrolyte solution.

10. The liquid absorbing sheet according to
claim 1, wherein the monomer composition further
10 contains a phosphate-based liquid flame retardant.

11. The liquid absorbing sheet according to
claim 10, wherein the phosphate-based liquid flame
retardant is bisphenol A bis(diphenyl)phosphate,
15 hydroquinol bis(diphenyl)phosphate, phenyl dixylenyl
phosphate, tricresyl phosphate, cresyl diphenyl
phosphate, trixylenyl phosphate, xylenyl diphenyl
phosphate, resorcinol bis(diphenyl)phosphate, or 2-
ethylhexyl diphenyl phosphate.

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12. The liquid absorbing sheet according to
claim 10 or 11, wherein the phosphate-based liquid
flame retardant is present in the monomer composition
in an amount of 70 to 200 parts by weight with respect
25 to 100 parts by weight of the monofunctional monomer
component (A) and the polyfunctional monomer component

(B) combined.

13. A nonaqueous electrolyte battery pack comprising a nonaqueous electrolyte battery cell, a
5 circuit board, an electrolyte-absorbing element for absorbing an electrolyte solution in the event of electrolyte leakage from the nonaqueous electrolyte battery cell, and a battery case encasing the battery cell, the circuit board and the electrolyte-absorbing
10 element, characterized in that the electrolyte-absorbing element is formed of the liquid absorbing sheet according to any one of claims 1 to 12.